AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A system for cooling coated semiconductor substrates, said system comprising:

a chamber ~~adapted to receive~~ for receiving at least one coated semiconductor substrate;

a coupling coupled to the chamber and a fluid reservoir for placing the chamber in fluid communication with ~~a~~ the fluid reservoir;

an inlet valve attached to the coupling for controlling a flow of cooling fluid between the fluid reservoir and the chamber, wherein the pressure drop across the inlet valve is at least about 10 bar; and

a controller coupled to the inlet valve for controlling the inlet valve.

2. (Cancelled)

3. (Original) The system of claim 2 wherein the pressure drop across the inlet valve is at least about 100 bar.

4. (Currently Amended) The system of claim 1 wherein the controller controls the temperature of the cooling fluid at a point within the chamber.

5. (Currently Amended) The system of claim 1 further comprising an outlet valve for controlling ~~the~~ a flow of cooling fluid out of the chamber, wherein the controller also controls the outlet valve.

6. (Currently Amended) The system of claim 5 wherein the controller controls the rate of cooling fluid flow through the chamber.

7. (Currently Amended) The system of claim 1 wherein ~~the~~ cooling fluid entering the chamber from the reservoir substantially mixes with fluid already in the chamber before contacting the ~~substrates~~ at least one semiconductor substrate.

8. (Currently Amended) The system of claim 7 further comprising a baffle, wherein the cooling fluid flowing into the chamber is directed against the baffle.

9. (Withdrawn) A system for cooling coated semiconductor substrates comprising:

means for cooling a fluid by at least about 10 °C through the Joule-Thompson effect; and

means for contacting the substrates with the cooled fluid.

10. (Withdrawn) The system of claim 9 comprising means for cooling the fluid by at least about 25 °C through the Joule-Thompson effect.

11. (Withdrawn) A method of cooling coated semiconductor substrates, comprising:

cooling a fluid by at least about 10 °C through the Joule-Thompson effect; and

contacting the substrates with the cooled fluid.

12. (Withdrawn) The method of claim 11 wherein the temperature of the cooling fluid is varied during the cooling process.

13. (Withdrawn) The method of claim 11 wherein the substrates are in a chamber and the temperature and/or flow rate of the cooling fluid entering the chamber are varied to

maintain an approximately constant difference between the average fluid temperature in the chamber and the average substrate temperature.

14. (Withdrawn) The method of claim 11 wherein the pressure in the chamber is maintained at or above about 2 bar.

15. (Withdrawn) The method of claim 11 wherein the cooling fluid is heated before it is cooled.

16. (Withdrawn) The method of claim 11 wherein the temperature within and among the substrates never varies by more than about 2 °C over the course of the cooling process.

17. (Withdrawn) The method of claim 11 wherein the substrates are cooled within a chamber within which the substrates were previously heated.

18. (Withdrawn) The method of claim 11 wherein the flow rate of the cooling fluid is varied during the cooling process.

19. (Withdrawn) A method of cooling coated semiconductor substrates, comprising:

heating a fluid to a temperature above ambient;

subsequently flowing the fluid into a chamber containing the substrates; and

cooling the substrates by contacting them with the fluid.

20. (Withdrawn) The method of claim 19 wherein the temperature of the fluid entering the chamber is varied as the substrates cool.

21. (Cancelled)